Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently amended) In a receiver section of a relayed communication system, a method for removal of self-interference comprising:

modeling downconversion imperfections in an imperfectly downconverted signal from a receiver downconverter in said receiver section operative to receive both an intended signal and a self-generated signal from a local associated transmitter forming a received relayed composite signal;

compensating for said downconversion imperfections in said received relayed composite signal to produce a compensated composite signal; ~~and~~

matching phase and amplitude of a portion of said compensated composite signal to a local representation of said self-generated signal; and

canceling said self-generated signal portions from said compensated composite signal to provide an output signal for demodulation.

2. (Original) The method according to claim 1 wherein said receiver downconverter model imperfections include at least one of the following:

quadrature phase offset, quadrature d.c. imbalance, and quadrature amplitude imbalance.

3. (Currently amended) ~~The method according to claim 1~~ In a receiver section of a relayed communication system, a method for removal of self-interference comprising:

modeling downconversion imperfections in an imperfectly downconverted signal from a receiver downconverter in said receiver section operative to receive both an intended signal and a self-generated signal from a local associated transmitter forming a received relayed composite signal;

compensating for said downconversion imperfections in said received relayed composite signal to produce a compensated composite signal;

canceling said self-generated signal portion from said compensated composite signal to provide an output signal for demodulation; wherein said ~~downconversion imperfection~~ compensating ~~step~~ includes setting d.c. level based on said modulated output signal.

4. (Currently amended) The method according to claim 1 wherein said ~~downconversion imperfections~~ compensating ~~step~~ includes comparing at least one of the following:

phase and magnitude of said modulated output signal with corresponding characteristics of said replicated modulated user signal.

5. (Currently amended) In a receiver section of a relayed communication system, a method for removal of self-interference comprising:

modeling upconversion imperfections in an imperfectly upconverted signal from a transmitter upconverter in a transmitter section local to said receiver section, said transmitter section producing a self-generated signals; and

compensating for said upconversion imperfections to produce a compensated composite signal from a received relayed composite signal containing a representation of said imperfectly upconverted signal; while

canceling said self-generated signal ~~portions~~ from said compensated composite signal to provide an output signal for demodulation.

6. (Currently amended) The method according to claim 5 wherein said compensating ~~step~~ and said canceling ~~step~~ are based on a representation of said self-generated signal and said received relayed composite signal.

7. (Original) The method according to claim 6 wherein said representation of said self-generated signal is a delayed replicated self-generated signal.

8. (Original) The method according to claim 5 wherein said transmitter upconverter model imperfections include at least one of the following:

quadrature phase offset, quadrature d.c. imbalance, and quadrature amplitude imbalance.

9. (Currently amended) The method according to claim 5 wherein said upconversion imperfection compensating ~~step~~ includes setting d.c. level based on said modulated output signal.

10. (Currently amended) The method according to claim 5 wherein said upconversion imperfections compensating ~~step~~ includes comparing at least one of the following:

phase and magnitude of said modulated output signal with corresponding characteristics of said replicated modulated user signal.

11. (Original) The method according to claim 5 wherein said upconversion imperfections compensating step includes comparing phase of said modulated output signal with corresponding characteristics of said replicated modulated user signal.

12. (Original) The method according to claim 5 wherein said upconversion imperfections compensating step includes correlating said modulated output signal with said replicated modulated user signal.

13. (Original) The method according to claim 12 wherein said correlating is among any two quadrature components.

14. (Currently amended) A method for self-interference removal in a relayed communication system comprising:

providing a model of an imperfect receiver downconverter;

compensating for downconversion imperfections in an imperfectly downconverted signal from said imperfect receiver downconverter at ~~the output of~~ said imperfect receiver downconverter to remove said downconversion imperfections to produce a compensated composite signal;

providing a model of an imperfect transmitter upconverter;

replicating a modulated user signal using as input a user baseband signal to produce a replicated modulated user signal;

compensating for upconversion imperfections in an imperfectly upconverted signal from said imperfect transmitter upconverter on said replicated modulated user signal to

remove said upconversion imperfections to produce a compensated replicated modulated user signal; and

canceling said compensated replicated modulated user signal from said compensated composite signal to provide a modulated output signal.

15. (Original) The method according to claim 14 wherein said receiver downconverter model imperfections include at least one of the following:

quadrature phase offset, quadrature d.c. imbalance, and quadrature amplitude imbalance.

16. (Original) The method according to claim 14 wherein said transmitter upconverter model imperfections include at least one of the following:

quadrature phase offset, quadrature d.c. imbalance, and quadrature amplitude imbalance.

17. (Original) The method according to claim 14 wherein said receiver downconverter model imperfections include at least one of the following:

quadrature phase offset, quadrature d.c. imbalance, and quadrature amplitude imbalance; and wherein

said transmitter upconverter model imperfections include at least one of the following:

quadrature phase offset, quadrature d.c. imbalance, and quadrature amplitude imbalance.

18. (Currently amended) The method according to claim 14 wherein said upconversion imperfection compensating ~~step~~ includes setting d.c. level based on said modulated output signal.

19. (Currently amended) The method according to claim 14 wherein said upconversion imperfections compensating ~~step~~ includes comparing at least one of the following:

phase and magnitude of said modulated output signal with corresponding characteristics of said replicated modulated user signal.

20. (Currently amended) The method according to claim 14 wherein said downconversion imperfection compensating ~~step~~ includes setting d.c. level based on output level of said downconverter.

21. (Currently amended) The method according to claim 20 wherein said downconversion imperfections compensating ~~step~~ includes comparing at least one of the following:

phase and magnitude of the output of said downconverter with corresponding characteristics of said compensated composite signal.

22. (Currently amended) The method according to claim 14 wherein said upconversion imperfections compensating ~~step~~ includes comparing phase of said modulated output signal with corresponding characteristics of said replicated modulated user signal.

23. (Currently amended) The method according to claim 14 wherein said upconversion imperfections compensating ~~step~~ includes correlating said modulated output signal with said replicated modulated user signal.

24. (Original) The method according to claim 23 wherein said correlating is among any two quadrature components.

25. (Currently amended) An apparatus for removal of self-interference in a relayed communication system comprising:

a first compensator for compensating for downconversion imperfections in an imperfectly downconverted signal from ~~said~~ an imperfect receiver downconverter at the output of said imperfect receiver downconverter to remove said downconversion imperfections in said imperfectly downconverted signal to produce a compensated composite signal;

a replicator for replicating a modulated user signal using as input a user baseband signal to produce a replicated modulated user signal;

a second compensator for compensating for upconversion imperfections in an imperfectly upconverted signal from ~~said~~ an imperfect transmitter upconverter on said replicated modulated user signal to remove said upconversion imperfections to produce a compensated replicated modulated user signal; and

a canceller for canceling said compensated replicated modulated user signal from said compensated composite signal to provide a modulated output signal.

26. (Currently amended) In a receiver section of a relayed communication system, an apparatus for removal of self-interference comprising:

a compensator for compensating for said downconversion imperfections in a received relayed imperfectly downconverted composite signal in an imperfect receiver downconverter to produce a compensated composite signal; and

a ~~canceler~~ canceller for canceling self-generated signal portions from said compensated composite signal to provide an output signal for demodulation.

27. (Currently amended) In a receiver section of a relayed communication system, an apparatus for removal of self-interference comprising:

a compensator for compensating for said upconversion imperfections in an imperfectly upconverted signal of an imperfect transmitter upconverter to produce a compensated composite signal; and

a canceller for canceling self-generated signal portions from said compensated composite signal to provide an output signal for demodulation.